

10GBASE-T Alien Crosstalk Measurements on Cat.5e

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ANEXT on Cat.5e

- Measurements performed as per cabling adhoc proposal
- ANEXT measurement between Seven 90 m Cat.5e cables
- ANEXT measurement between all pairs of the seven cables (336 measurements)
- Power Sum calculated on each pairs with 24 disturbers

1- Cables layout on the floor with tie-wrap every 5ft

2- Cables in a 30m long 1” conduit, measured at 2 m from the conduit

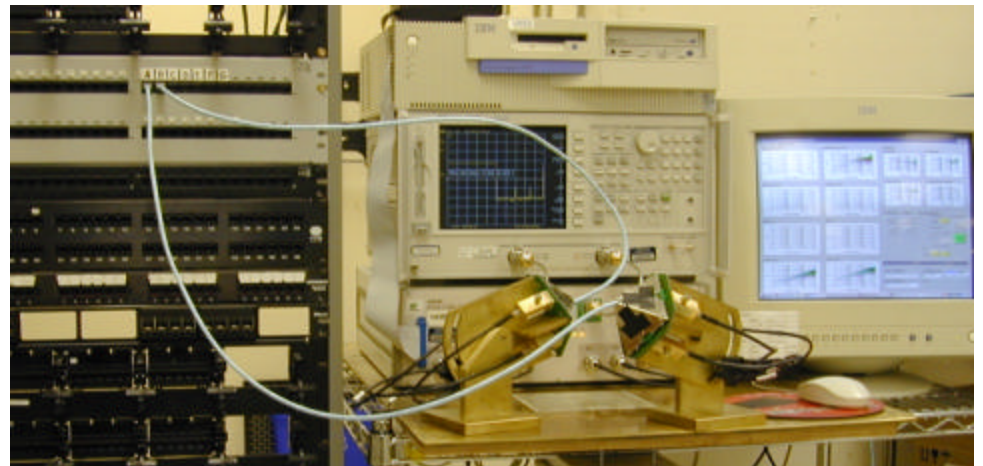
3- Measured at 5 m from the conduit

4- Measured with 1m Patch cord on a KeyStone patch pannel (5 m from the conduit)

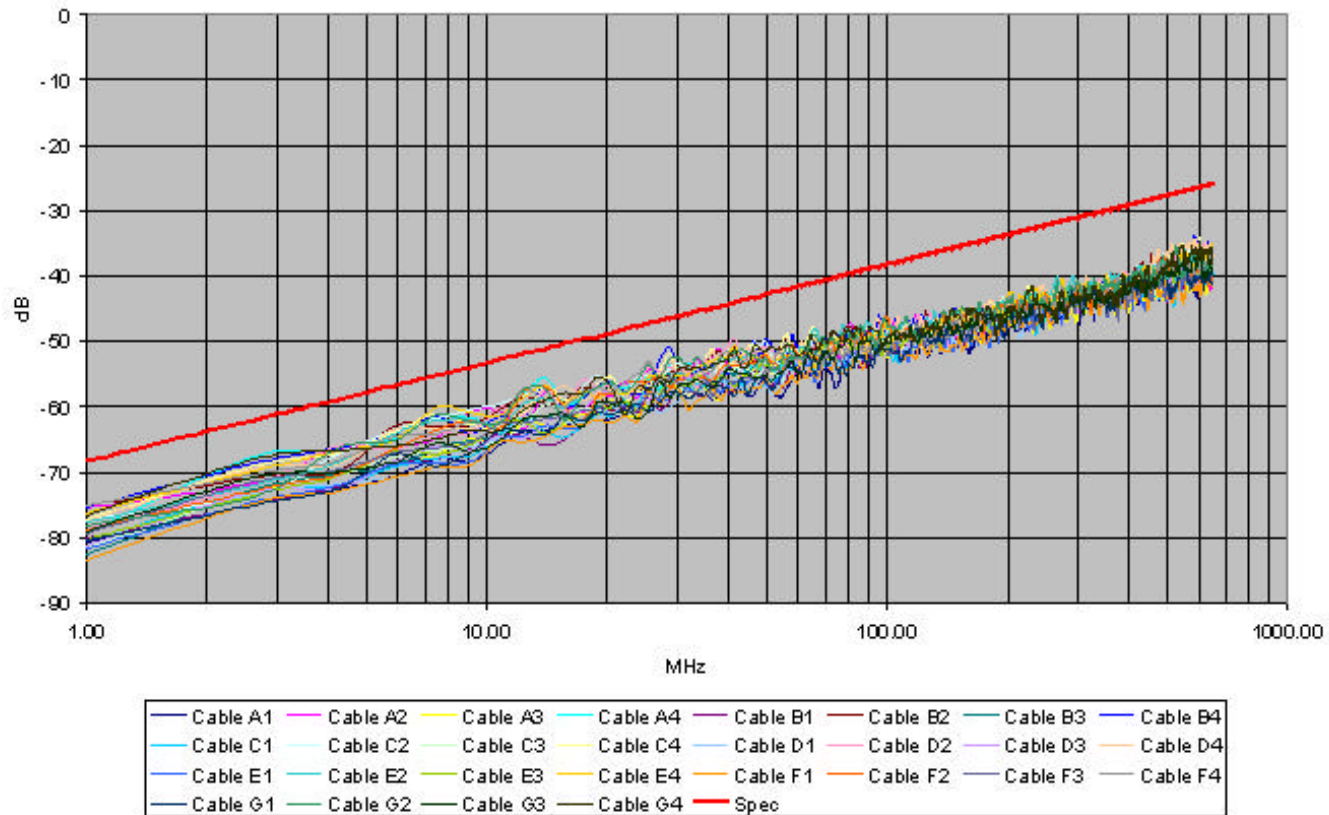
5- Measured with 1m Patch cord on a PCB based patch pannel

ANEXT on Cat.5e

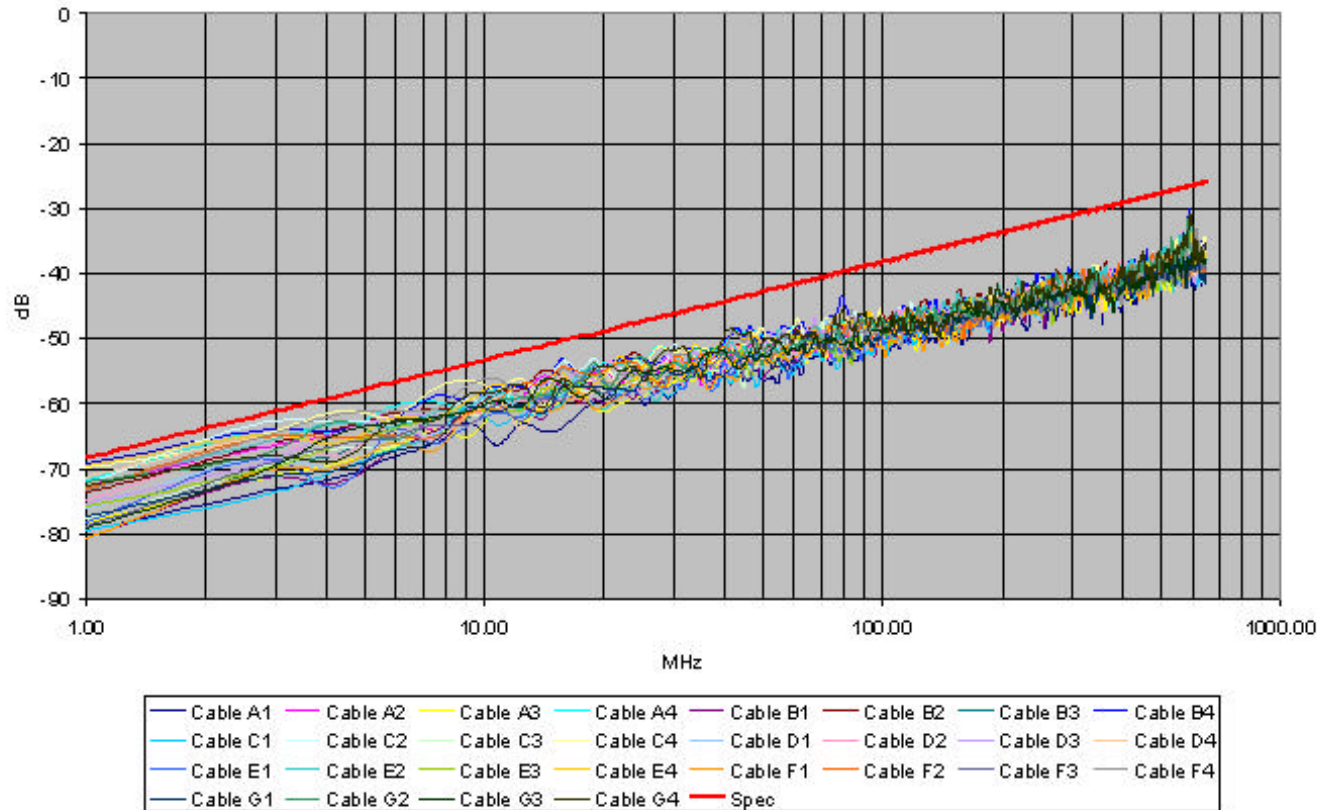
- Conduit installation and Network Analyzer setup



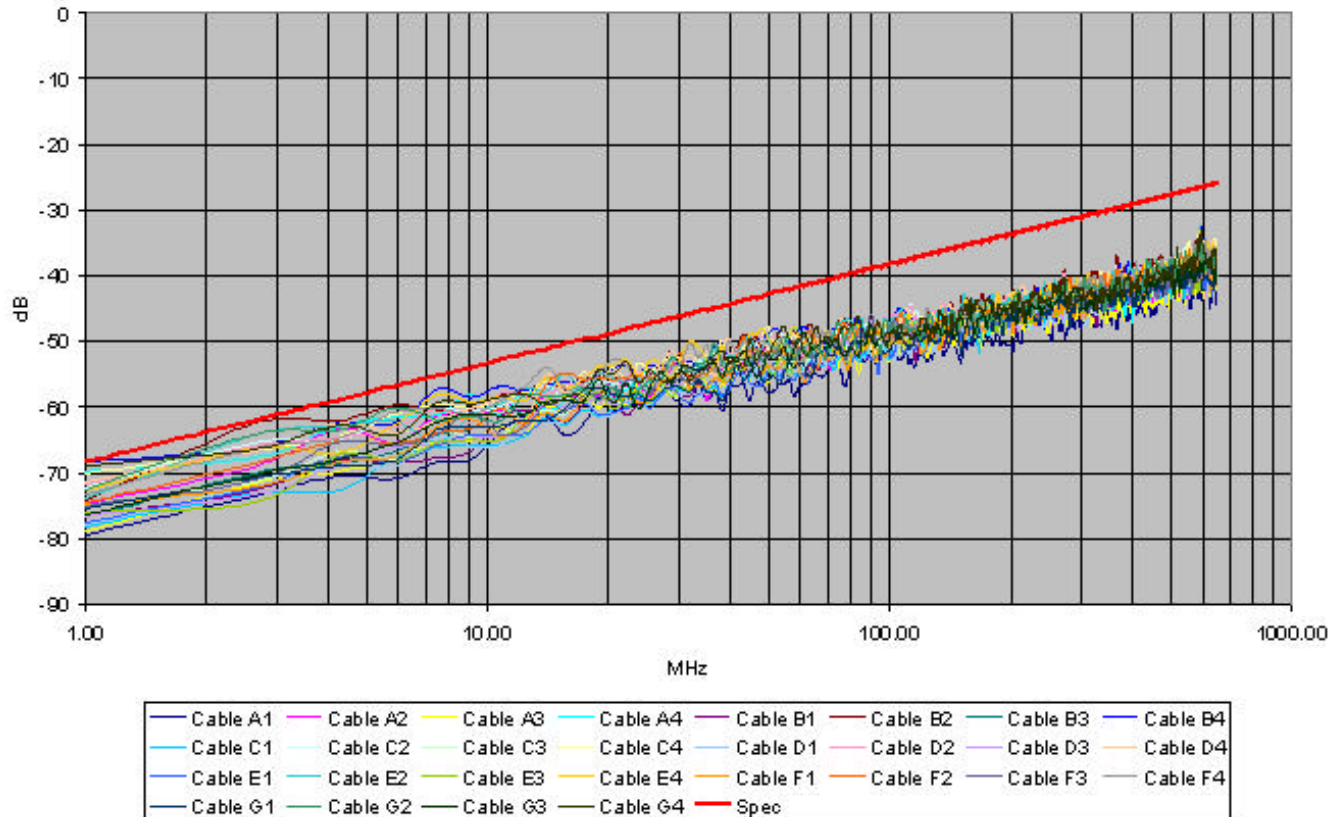
PS-ANEXT 7 Cables on Floor (taped every 5 ft)



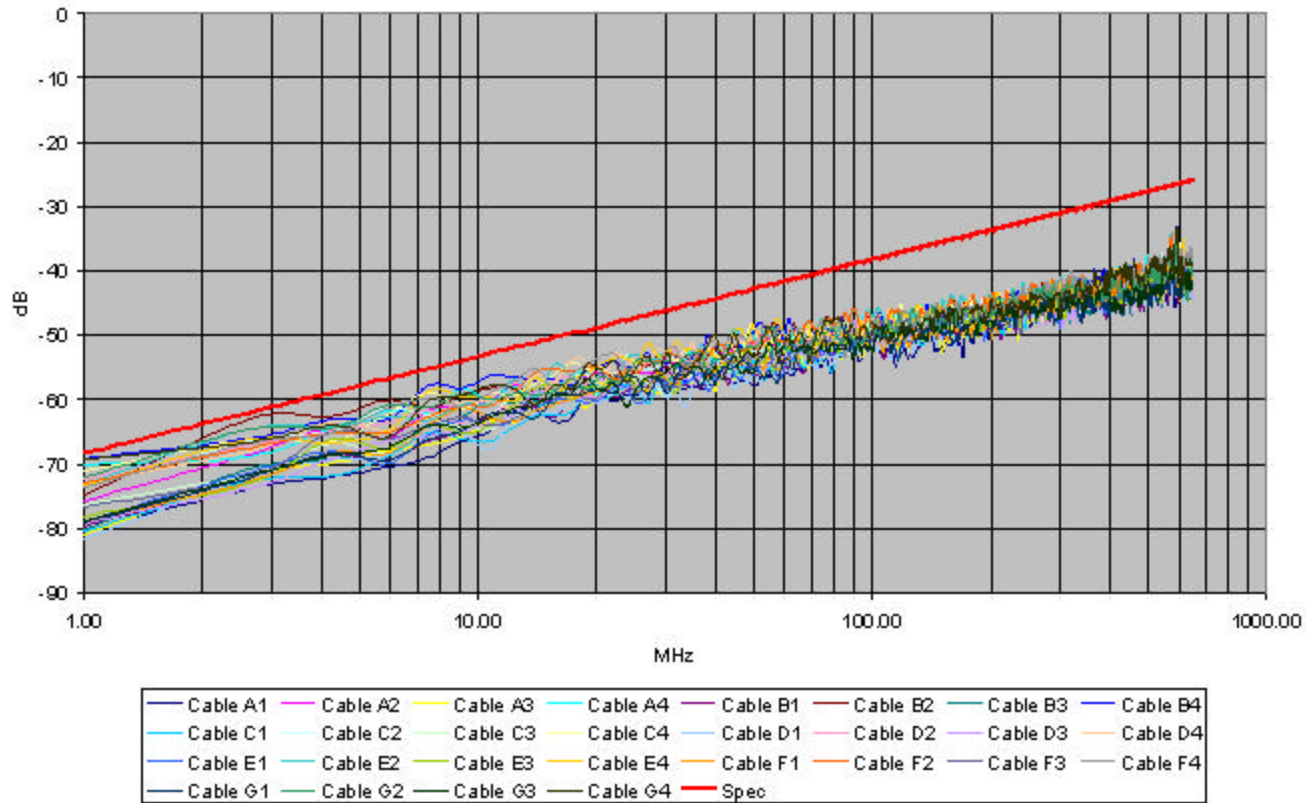
PS-ANEXT: 7 Cables, 2m from conduit



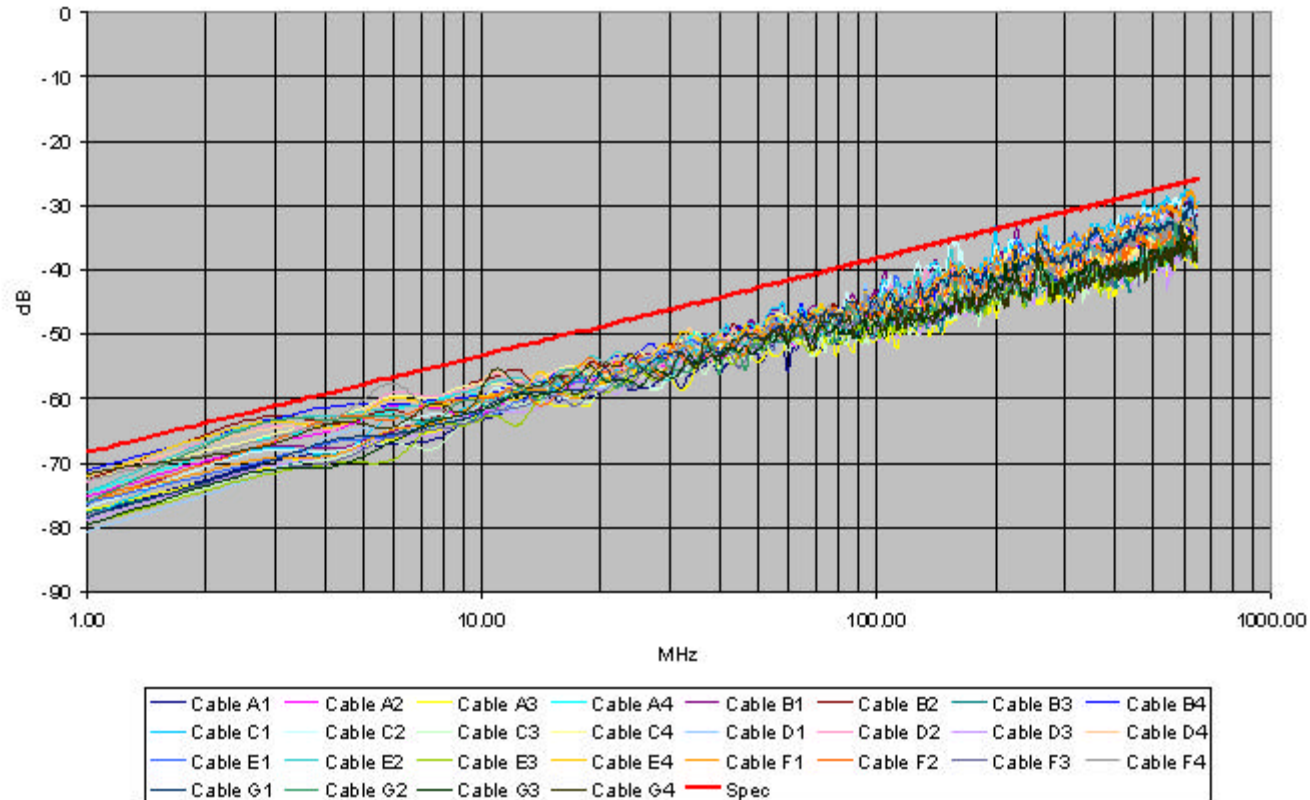
PS-ANEXT: 7 Cables, 5m from conduit



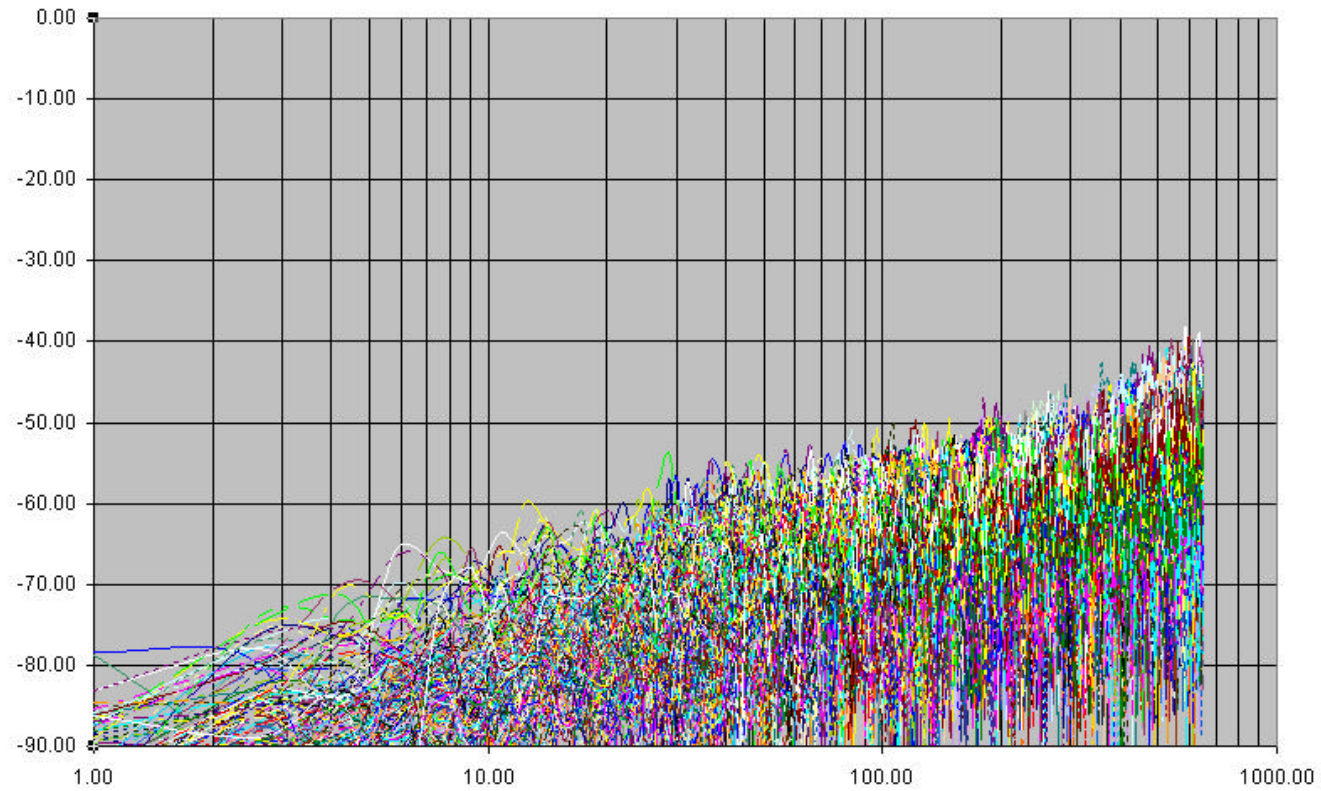
PS-ANEXT: 7 Cables, 5m out of conduit, KeyStone Patch Panel, 1m Patch Cord



PS-ANEXT: 7 Cables, 5m out of conduit, PCB Based Patch Panel, 1m Patch Cord



Pair to Pair ANEXT on 7 cables on the floor



Conclusions

- ANEXT on Cat.5e installed cable can be 5 to 10 dB better than Cat.5e Bundled cable
- Spreading cables in conduit may improve ANEXT at low frequency (<100MHz)
- PCB Based (or installed) Patch Panel affects ANEXT at frequency > 60 MHz